



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5-A1 BYPASS RATIO: 6.0
 UNIQUE ID NUMBER: 1CM008 PRESSURE RATIO (π_{00}): 26.6
 COMBUSTOR:
 ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 111.2

REGULATORY DATA

| CHARACTERISTIC VALUE: | HC | CO | NO _x | SMOKE NUMBER |
|--|------|------|-----------------|--------------|
| D _p /F ₀₀ (g/kN) or SN | 4.0 | 34.2 | 46.9 | 20.3 |
| AS % OF ORIGINAL LIMIT | 20.4 | 29.0 | 50.4 | 88.5 |
| AS % OF CAEP/2 LIMIT (NO _x) | | | 63.0 | |
| AS % OF CAEP/4 LIMIT (NO _x) | | | 76.3 | |
| AS % OF CAEP/6 LIMIT (NO _x) | | | 86.7 | |
| AS % OF CAEP/8 LIMIT (NO _x) | | | 103.5 | |

DATA STATUS

- PRE-REGULATION
 - CERTIFICATION
 x REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

| MODE | POWER SETTING (%F ₀₀) | TIME (minutes) | FUEL FLOW (kg/s) | EMISSIONS INDICES (g/kg) | | | SMOKE NUMBER |
|--|-----------------------------------|----------------|------------------|--------------------------|---------|-----------------|--------------|
| | | | | HC | CO | NO _x | |
| TAKE-OFF | 100 | 0.7 | 1.051 | 0.23 | 0.90 | 24.60 | 15.8 |
| CLIMB OUT | 85 | 2.2 | 0.862 | 0.23 | 0.90 | 19.60 | 14.0 |
| APPROACH | 30 | 4.0 | 0.291 | 0.40 | 2.50 | 8.00 | 4.4 |
| IDLE | 7 | 26.0 | 0.101 | 1.40 | 17.60 | 4.00 | 2.3 |
| LTO TOTAL FUEL (kg) or EMISSIONS (g) | | | 385 | 285 | 3093 | 4506 | - |
| NUMBER OF ENGINES | | | | 1 | 1 | 1 | 1 |
| NUMBER OF TESTS | | | | 3 | 3 | 3 | 3 |
| AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX) | | | | 2.6 | 27.9 | 40.5 | 15.8 |
| SIGMA (D _p /F ₀₀ in g/kN, or SN) | | | | 0.5 | 0.7 | 0.6 | 2.0 |
| RANGE (D _p /F ₀₀ in g/kN, or SN) | | | | 2.3-3.2 | 27-28.4 | 39.9-40.9 | 13.5-17.3 |

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

| | |
|----------------------|---------------|
| BAROMETER (kPa) | 94.7-95.6 |
| TEMPERATURE (K) | 280-291 |
| ABS HUMIDITY (kg/kg) | 0.0026-0.0034 |

FUEL

| | |
|----------|-------|
| SPEC | Jet A |
| H/C | 1.95 |
| AROM (%) | 18 |

MANUFACTURER: CFM International
 TEST ORGANIZATION: CFM56 Evaluation Engineering
 TEST LOCATION: Peebles Site IIIC
 TEST DATES: 19/11/1986-20/11/1986

REMARKS

1. Ref GE Report R87AEB368.
2. Engine S/N 730002/2.
3. Data revised and corrected April 93.

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)